

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

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| Date of mailing (day/month/year) | | 01-07-2004 |
| Applicant's or agent's file reference 72099PC/JR | | FOR FURTHER ACTION See paragraph 2 below |
| International application No. PCT/SE 2004/000497 | International filing date (day/month/year) 31-03-2004 | Priority date (day/month/year) 31-03-2003 |
| International Patent Classification (IPC) or both national classification and IPC G06K 11/18, H04N 1/00 | | |
| Applicant XPANDIUM AB et al | | |

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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Form PCT/ISA/237 (cover sheet) (January 2004)

10/551331
JC09 Rec'd PCT/PTO 29 SEP 2005WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/SE 2004/000497

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
- a. type of material
- ☐ a sequence listing
- ☐ table(s) related to the sequence listing
- b. format of material
- ☐ in written format
- ☐ in computer readable form
- c. time of filing/furnishing
- ☐ contained in the international application as filed.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/SE 2004/000497

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|------------------|-----|
| Novelty (N) | Claims | <u>1-13</u> | YES |
| | Claims | _____ | NO |
| Inventive step (IS) | Claims | <u>3</u> | YES |
| | Claims | <u>1-2, 4-13</u> | NO |
| Industrial applicability (IA) | Claims | <u>1-13</u> | YES |
| | Claims | _____ | NO |

2. Citations and explanations:

Documents cited in the International Search Report:

D1: EP1283493 A2

The object of the invention according to the applicant is to present a method for navigation on a surface using an optical sensor, where the accuracy is higher and the system is more effective. This is done with a system that includes a optical sensor comprising an image sensor and where images is taken at predicted positions which is identified with coordinates and rotation angles.

D1 outlines a pointing device that produces output signal indicating relative movement between portions of pointer e.g. mouse and adjacent surface, using optical imaging sensor for monitoring movement relative to surface. The pointing device tracks the relative motion between a device and an adjacent surface using an optical detector that responds to changes in images of the surface. The tracking device produces a signal indicating the relative motion of the pointing device as a function of a cross correlation between a reference image and a comparison image, and an auto correlation of the reference image. Only pixel data for the reference image are retained in a memory.

Claims 1 and 13:

The invention as defined in these claims differs from what is known from D1 in that a rotation angle is used in the identification of the predicted position. The effect of this difference is that a system with higher accuracy is achieved.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of: BOX V

The problem to be solved, in order to achieve a system with higher accuracy, is to provide a system with functionality using a rotation angle or the like.

A person skilled in the art facing this problem knows from D1 that several different means can be used to identify the predicted positions and among them, ways that provide the same functionality as a rotation angle.

Thus, a person skilled in the art, having knowledge of D1, aiming to solve the identified problem would with this knowledge modify the system according to D1 in such a way that the identification of the predicted positions would involve a rotation angle or the like, thus arrive at the invention according to claims 1 and 13.

The invention claimed in claims 1 and 13 is thus not considered to involve an inventive step.

Claims 2 and 4-12:

The invention as defined in these claims differs from D1 in obvious details concerning a method for navigation on a surface using an optical sensor according to claims 1 and 13.

More specifically, the additional features described in these claims are either known from prior art documents or generally known in the technical field of optical sensors. The inclusion of such features is regarded as part of the customary praxis the skilled person would consider in accordance with circumstances.

In D1 are also equivalent techniques described and used. From that described in these claims it is considered obvious to a person skilled in the art, with knowledge of D1, to accomplish what is described in these claims, if confronted with these problems. Hence, the invention claimed in claims 2 and 4-12 is not considered to involve an inventive step.

According to the arguments stated above, the invention claimed in claims 1-13 is considered to be industrially applicable and is considered to be novel but claims 1-2 and 4-13 is not considered to involve an inventive step.